IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of:	Donald Kerth et al.
Filed:	7/22/2003
For:	APPARATUS AND METHODS FOR REDUCING INTERFERENCE IN RADIO-FREQUENCY APPARATUS
Serial No.:	10/624,456
Group Art Unit:	2618
Examiner:	Nguyen, Lee
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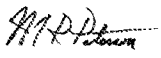
Date: 5/22/2008 Name: 

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APPEAL BRIEF

The Applicant submits this Appeal Brief in support of an appeal to the Board of Patent Appeals and Interferences ("Board") from a final Office Action dated January 23, 2008 ("Office Action"). Concurrently with this paper, the Applicant files a two-month extension of time, together with the requisite fees for the extension of time and for this Appeal Brief.

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I. REAL PARTY IN INTEREST PURSUANT TO 37 C.F.R. § 41.37(C)(1)(I)

The real party in interest in this Appeal is Silicon Laboratories Inc., having an office at 400 West Cesar Chavez, Austin, Texas 78701, USA.

II. RELATED APPEALS AND INTERFERENCES PURSUANT TO 37 C.F.R. § 41.37(C)(1)(II)

The Applicant has no knowledge of any prior or pending appeals, judicial proceedings, or interferences that might relate to, directly affect, or be directly affected by or have a bearing on the Board's decision in the pending appeal.

III. STATUS OF CLAIMS PURSUANT TO 37 C.F.R. § 41.37(C)(1)(III)

Claims 1-20 are pending in the application. Claims 1-20 stand finally rejected by the Office Action, and constitute the subject of this appeal to the Board.

IV. STATUS OF AMENDMENTS PURSUANT TO 37 C.F.R. § 41.37(C)(1)(IV)

The Applicant last amended the application including the claims under appeal in a paper dated September 5, 2006 (specifically, the Applicant added claims 5-20). The Applicant has not amended the claims since the Office issued the Office Action.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER PURSUANT TO 37 C.F.R. § 41.37(C)(1)(V)

None of the claims on appeal includes means-plus-function or step-plus-function subject matter. Accordingly, pursuant to 37 C.F.R. § 41.37(c)(1)(v)), the Applicant provides below a summary of the independent claim on appeal, i.e., claims 1, 3, and 5, by making references to exemplary parts of the Specification. (The Applicant notes that, in the absence of any means-plus-function or step-plus-function limitations in the claims, 37 C.F.R. § 41.37(c)(1)(v)) does not require providing a summary of the dependent claims, even though the Applicant argues the claims separately.)

Generally speaking, the subject-matter disclosed in the application concerns radio-frequency (RF) apparatus. *See* Specification at 1, lines 20-21. More particularly, the subject-matter relates to apparatus and associated methods for reducing interference in RF apparatus, such as RF apparatus that includes non-linear blocks or circuitry, such as noise-shaping converters, modulators or multipliers, switched-capacitor networks or filters, and the like. *See id.* at 1, line 21 to *id.* at 2, line 2; *id.* at 5, line 20 to *id.* at 6, line 13.

Independent claim 1 recites a converter in an RF apparatus. *See, e.g.*, Specification at 2, line 20-21; *id.* at 5, line 20 to *id.* at 6, line 4; *id.* at 6, lines 6-13; *id.* at 10, line 17 to *id.* at 11, line 3; figs. 1, 2, 3, 7, 8, and their accompanying descriptions. The converter includes a feedback circuitry. *See, e.g.*, Specification at 2, lines 20-21; *id.* at 11, lines 5-6; *id.* at 12, lines 13-21; figs. 2, 3, 7, 8, and their accompanying descriptions. The feedback circuitry has a shielded input and a shielded output. *See, e.g.*, Specification at 19, line 9 to *id.* at 21, line 12; *id.* at 21, line 14 to *id.* at 22, line 20; figs. 7, 8, and their accompanying descriptions. The shielded input and the shielded

output of the converter circuitry tend to reduce interference in the converter. *See, e.g.*, Specification at 19, line 9 to *id.* at 21, line 12; *id.* at 21, line 14 to *id.* at 22, line 20; figs. 7, 8, and their accompanying descriptions.

Independent claim 3 recites a method of reducing interference in a non-linear circuit in a radio-frequency (RF) apparatus. *See id.* at 1, line 21 to *id.* at 2, line 2; *id.* at 5, line 20 to *id.* at 6, line 13. The non-linear circuit has an input and an output. *See, e.g.*, *id.* at 5, line 20 to *id.* at 6, line 13. The method includes shielding an input of the non-linear circuit, and shielding an output of the non-linear circuit. *See, e.g.*, *id.*

Independent claim 5 recites an RF apparatus. The RF apparatus includes a non-linear signal-processing circuit. *See id.* at 1, line 21 to *id.* at 2, line 2; *id.* at 5, line 20 to *id.* at 6, line 13. The RF apparatus also includes a shield that shields an input of the non-linear signal-processing circuit. *See, e.g.*, *id.* at 5, line 20 to *id.* at 6, line 13. The RF apparatus includes another shield that shields an output of the non-linear signal-processing circuit. *See, e.g.*, *id.*

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL PURSUANT TO 37 C.F.R. § 41.37(C)(1)(VI)

The Office Action rejected claims 1-20 as anticipated or obvious. Specifically, the Office Action:

- rejected claims 1-2 as anticipated by U.S. Patent No. 3,100,282, to Fletcher ("Fletcher") pursuant to 35 U.S.C. § 102(b), *see* Office Action at 2; and
- rejected claims 3-20 as obvious pursuant to 35 U.S.C. § 103(a) over the combination of Fletcher and U.S. Patent No. 6,198,347 to Sander et al., *see id.* at 3-6.

VII. ARGUMENT PURSUANT TO 37 C.F.R. § 41.37(C)(1)(VII)

According to well-settled law, the Office has the initial burden of setting forth prima facie rejections of the claims (should it desire to reject the claims). If the Office satisfies that burden, the burden then shifts to the Applicant to rebut the prima facie rejections.

Here, the Office Action fails to set forth prima facie rejections of the claims on appeal. More specifically, in previous responses, the Applicant raised various points, discussed previously on record and also below, to show that the Office had failed to properly reject the claims. The Office Action appears to largely repeat assertions made previously by the Office, rather than set forth concrete evidentiary and legal foundations and detailed analysis to support the rejections.

Accordingly, the Office Action fails to satisfy the Office's initial burden to provide a proper rejection, with detailed analysis, that enables the Applicant to formulate a proper response. The Applicant therefore requests that the Board reverse the rejections of the claims.

In the following discussion, the Applicant argues and discusses the claims separately. Thus, the claims do not stand or fall together.

A. Anticipation Rejection of Claims 1-2 By Fletcher

Claim 1 is an independent claim. Brown fails to teach the limitations of claim 1. Thus, as a matter of law, it cannot anticipate those claims. Claim 2 depends on claim 1, and, accordingly, includes its limitations. Thus, Fletcher also fails to anticipate claim 2.

i. Independent claim 1

Claim 1 recites: "1. A converter in a radio-frequency (RF) apparatus, the converter comprising a feedback circuitry having a shielded input and a shielded output, wherein the shielded input and the shielded output tend to reduce interference in the converter." *Infra* part IX (providing the text of claim 1). As noted, the Office Action rejected claim 1 as anticipated by Fletcher. For at least the following reasons, the Applicant respectfully disagrees.

The entire rejection of claim 1 in the Office Action consists of the following paragraph:

> Regarding claim 1, Fletcher teaches a converter in a radio-frequency (RF) apparatus, the converter comprising a feedback circuitry (30, 16, 10, 15, see figures 1-2, col. 2, lines 20-25) having a shielded input 32 and a shielded output 34, wherein the shielded input and the shielded output inherently tend to reduce interference in the converter.

Office Action at 2. This meager passage essentially repeats what the Office has issued previously as a rejection. Even though the Applicant has several times pointed out deficiencies in the purported rejection, the Office has failed to properly address them.

Specifically, as the Applicant has previously noted, Fletcher fails to teach the claimed "converter in a radio-frequency (RF) apparatus." Furthermore, Fletcher fails to disclose "a feedback circuitry having a shielded input and a shielded output, wherein the shielded input and the shielded output tend to reduce interference in the converter," as claim 1 recites.

Rather than meet the Office's initial burden of setting forth a prima facie rejection, the Office Action merely states, "as the name implied [sic],

the transducer is used to converted [sic] the input from one form into the output of another form. Therefore, the transducer of Fletcher reads on the claimed converter." Office Action at 7.

The Office Action goes on to assert that:

> one having skilled in the art can recognize and understand that the transducer of Fletcher has a feedback loop as disclosed in column 2, lines 20-22, col. 3, lines 9-11), and that the feedback loop has a shield input and a shield output as demonstrated in col. 2, lines 22-25 and column 4, lines 44-47). Furthermore, the functional language of "tend to reduce interference" can be performed by shielded structure of Fletcher (see M.P.E.P §2114). In addition, the "wherein" clause is not given weight in this particular case (see M.P.E.P § 2111.04).

Office Action at 7. As in previous occasions when the Office advanced the same or similar arguments, the Applicant disagrees again.

At the outset, Fletcher's transducer 10 cannot teach the claimed "converter." As the Applicant has noted, the claimed "converter" includes a "feedback circuitry." Fletcher's transducer 10, according to Fletcher's own description, does not appear to include a feedback circuit. The Applicant has previously asked the Office to point out how transducer 10 of Fletcher includes a feedback circuitry, but the Office merely repeats the assertion that "the transducer of Fletcher has a feedback loop as disclosed in column 2, lines 20-22, col. 3, lines 9-11)."

Lines 20-22 of column 2 of Fletcher merely state: "It is an object of the invention to provide a floating potentiometric type feedback amplifier with means for connecting a signal source into the feedback loop . . . ." Fletcher, at col. 2, lines 20-22. Lines 9-11 of column 3 of Fletcher provide: "The feedback voltage is coupled to the input of the

amplifier 12 via a feedback loop comprising the lead 16, the transducer 10 and the lead 15." *Id.* at col. 3, lines 9-11.

By its very own express terms, Fletcher teaches "a feedback loop comprising . . . the transducer 10 . . . ." Fletcher, at col. 3, lines 10-11. Thus, Fletcher clearly fails to teach the claimed "converter in a radio-frequency (RF) apparatus, the converter comprising a feedback circuitry having a shielded input and a shielded output, wherein the shielded input and the shielded output tend to reduce interference in the converter."

Put another way, the Office cannot have it both ways. If the Office contends that Fletcher's transducer 10 actually constitutes the claimed "converter in a radio-frequency (RF) apparatus,," the Office must show how Fletcher's transducer 10 includes "a feedback circuitry having a shielded input and a shielded output, wherein the shielded input and the shielded output tend to reduce interference in the converter." In other words, the Office must show that Fletcher's transducer 10 includes "a feedback circuitry having a shielded input and a shielded output, wherein the shielded input and the shielded output tend to reduce interference in the converter," not that Fletcher somewhere in his disclosure makes a reference to circuit that uses feedback. The Office has failed to do so.

Furthermore, Fletcher states that "[i]n measuring systems, it is often necessary to connect one or more remotely located transducers or signal sources to an output device, with the transducers producing small magnitude D.C. voltages in response to changes in some physical phenomenon, such as temperature, pressure, rate of flow, and the like." Fletcher at col. 1, lines 13-18. Also, Fletcher's figures 1 and 2 show transducer 10 as a box that drives a filter 11 via leads 15 and 16. Another passage in Fletcher teaches that "transducer 10 may be conventional in nature, such as a strain gage, a

potentiometer, a thermocouple, a varistor, or the like." According to Fletcher's explicit terms, and to the Applicant's reading, nothing in Fletcher teaches or suggests that transducer 10 includes the claimed "feedback circuitry" or a "converter in a radio-frequency (RF) apparatus."

In addition, claim 1 recites that the "feedback circuitry," which is part of the "converter," "[has] a shielded input and a shielded output." The Office Action asserts that "Fletcher further teaches the shield input 32 (col. 4, line 45) and the shield output 34 (col. 4, line 47)." Even if Fletcher's transducer 10 were a "converter," to the Applicant's reading, nothing in Fletcher teaches that any feedback circuitry (as alleged by the Office) in transducer 10 has "a shielded input and a shielded output." Thus, Fletcher fails to anticipate or render obvious independent claim 1.

Finally, claim 1 recites a "converter in a radio-frequency (RF) apparatus." Fletcher, according to the Applicant's reading, nowhere discusses using transducer 10 as part of a radio-frequency (RF) apparatus. Thus, the Applicant respectfully submits that the Office incorrectly asserts that "the transducer of Fletcher reads on the claimed converter." Office Action at 7.

The Office Action asserted that "the functional language of 'tend to reduce interference' can be performed by shielded structure of Fletcher (see M.P.E.P §2114)." Office Action at 7. Once again, the Office Action failed to set forth a proper legal basis for the assertion, so that the Applicant may properly respond.

Section 2114 of the MANUAL OF PATENT EXAMINING PROCEDURE (MPEP) does not state some broad prohibition against functional claim language. In fact, the MPEP states -- correctly -- that "apparatus may be recited either structurally or functionally." MPEP § 2114. Furthermore, as articulated above, Fletcher fails to disclose the claimed apparatus. Thus, the Office

Action's assertion that "the functional language of 'tend to reduce interference' can be performed by shielded structure of Fletcher" lacks a proper legal basis.

The Office Acton further alleges that "the 'wherein' clause is not given weight in this particular case (see M.P.E.P § 2111.04)." Office Action at 7. Section 2111.04 of the MPEP states: "[E]xamples of claim language, although not exhaustive, that may raise a question as to the limiting effect of the language in a claim are: . . . (B) "wherein" clauses . . . . The determination of whether each of these clauses is a limitation in a claim depends on the specific facts of the case." MPEP § 2111.04 (emphasis added).

Here, the Office Action failed to provide any analysis of the applicability of section 2111.04. Rather, it made the bald assertion that "the 'wherein' clause is not given weight in this particular case." Without any analysis, the Office Action failed to provide any proper legal grounds to which the Applicant may formulate a response. Put another way, the Office Action did not analyze the "facts of the case" to reach the conclusion that it reached with respect to the "wherein" clause. Thus, once again, the Office Action failed to provide a prima facie rejection of the claim.

In summary, Fletcher fails to teach the subject matter of claim 1. Thus, as a matter of law, it cannot anticipate claim 1. The Office Action has therefore failed to set forth a prima facie rejection of claim 1.

ii. Dependent claim 2

Claim 2 depends on independent claim 1, and therefore includes all of its limitations. *See* 35 U.S.C. § 112, ¶ 4; 37 C.F.R. § 1.75(c). As noted above, the Office Action failed to properly establish that Fletcher teaches all

of the limitations of claim 1 and, by implication, claim 2. Accordingly, the Office Action failed to set forth a prima facie rejection of claim 2.

B. Obviousness Rejection of Claims 3-20 Over the Combination of Fletcher and Sander

The Office Action purportedly rejected claims 3-20 over the combination of Fletcher and Sander. *See* Office Action at 3-7. Claims 15-17 depend on claim 1. As discussed above, *see supra* part VII.A, Fletcher fails to teach all of the limitations of independent claim 1. Sander fails to teach the missing limitations. Thus, the combination of Fletcher and Sander fails to render obvious dependent claims 15-17.

Claims 3 and 5 are independent claims. Neither Fletcher, nor Sander, nor their combination, renders obvious independent claims 3 and 5. Claims 4-14 and 18-20 depend ultimately on claims 3 and 5, respectively and, accordingly, include their limitations. Thus, the combination of Fletcher and Sander fails to render obvious the dependent claims.

i. Independent Claim 3

Claim 3 recites:

> 3. A method of reducing interference in a non-linear circuit in a radio-frequency (RF) apparatus, wherein the non-linear circuit has an input and an output, the method comprising:
>
> shielding an input of the non-linear circuit; and
>
> shielding an output of the non-linear circuit.

In rejecting the claim, the Office Action stated:

> Regarding claim 3, Fletcher teaches a method of reducing interference in a circuit in a radio-frequency (RF) apparatus, wherein the circuit 11, 12, 14 (fig. 2) has an input 32 and an output 34, the method comprising: shielding 32 an input of the circuit 11, 12, 14; and shielding 34 an output of the non-linear circuit 11, 12, 14 (fig. 2). Fletcher does not explicitly teach that the operational amplifier in the circuit is classified as class A or B (linear) or class C (non-linear). Sander et al teach that, depend on design choice, operational amplifiers can be either linear class A or B amplifier or non-linear class C amplifiers (col. 1, lines 27-67). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include non-linear circuit in the apparatus of Fletcher in order to reduce power consumption with a trading-off of linearity.

Office Action at 3-4. At the outset, the Applicant notes that, as articulated above in connection with claim 1, Fletcher does not teach "a method of reducing interference in a circuit in a radio-frequency (RF) apparatus," as the Office Action alleged. The Applicant cannot find any teaching or suggestion in Fletcher regarding the use of the disclosed circuit in a radio-frequency (RF) apparatus.

Furthermore, the Office Action fails to support the assertion that "Fletcher does not explicitly teach that the operational amplifier in the circuit is classified as class A (linear) or class B or C (non-linear)." Office Action at 3-4. The Applicant requested that, if the Office wishes to rely on the obviousness rejection based on Fletcher as outlined in the Office Action, the Office establish (with a proper evidentiary basis, such as citing specific passages of Fletcher, or an Examiner's declaration) that Fletcher teaches that amplifier 12 is an operational amplifier. The Office has failed to do so. Rather, the Office Action merely repeated the statements made previously. To the Applicant's reading, Fletcher merely teaches that "amplifier 12 may be conventional in design." Fletcher at col. 3, at line 3.

For at least the above reasons, Fletcher, either alone or in combination with Sander, fails to render obvious claim 3. Accordingly, the Office has not met its burden of issuing a prima facie rejection of claim 3.

ii. Dependent claim 4

Claim 4 depends ultimately on independent claim 3, and therefore includes all of its limitations. *See* 35 U.S.C. § 112, ¶ 4; 37 C.F.R. § 1.75(c). As noted above, the Office Action failed to properly establish that the combination of Fletcher and Sander render obvious claim 3 and, by implication, claim 4. Accordingly, the Office Action fails to set forth a prima facie rejection of claim 4.

iii. Dependent claim 18

Claim 18 depends ultimately on independent claim 3, and therefore includes all of its limitations. *See* 35 U.S.C. § 112, ¶ 4; 37 C.F.R. § 1.75(c). As noted above, the Office Action failed to properly establish that the combination of Fletcher and Sander render obvious claim 3 and, by implication, claim 18. Accordingly, the Office Action fails to set forth a prima facie rejection of claim 18.

iv. Dependent claim 19

Claim 19 depends ultimately on independent claim 3, and therefore includes all of its limitations. *See* 35 U.S.C. § 112, ¶ 4; 37 C.F.R. § 1.75(c). As noted above, the Office Action failed to properly establish that the combination of Fletcher and Sander render obvious claim 3 and, by implication, claim 19. Accordingly, the Office Action fails to set forth a prima facie rejection of claim 19.

v. Dependent claim 20

Claim 20 depends ultimately on independent claim 3, and therefore includes all of its limitations. *See* 35 U.S.C. § 112, ¶ 4; 37 C.F.R. § 1.75(c). As noted above, the Office Action failed to properly establish that the combination of Fletcher and Sander render obvious claim 3 and, by implication, claim 20. Accordingly, the Office Action fails to set forth a prima facie rejection of claim 20.

vi. Independent Claim 5

Claim 5 recites:

> 5. A radio-frequency (RF) apparatus, comprising:
> a non-linear signal-processing circuit;
> a first shield that shields an input of the non-linear signal-processing circuit; and
> a second shield that shields an output of the non-linear signal-processing circuit.

In rejecting the claim, the Office Action stated:

> Regarding claim 5, Fletcher teaches a radio-frequency (RF) apparatus, comprising:
> a signal-processing circuit (30, 16, 10, 15, fig. 2);
> a first shield 32 that shields an input of the signal-processing circuit (30, 16, 10, 15); and
> a second shield 34 that shields an output of the signal-processing circuit (30, 16, 10, 15, fig. 2). Fletcher does not explicitly teach that the operational amplifier in the circuit is classified as class A or B (linear) or class C (non-linear). Sander et al teach that, depend on design choice, operational amplifiers can be either linear class A or B amplifier or non-linear class C amplifiers (col. 1, lines 27-

> 67). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include non-linear circuit in the apparatus of Fletcher in order to reduce power consumption with a trading-off of linearity.

Office Action at 4. At the outset, the Applicant notes that, as articulated above in connection with claims 1 and 3, Fletcher does not teach "radio-frequency (RF) apparatus," as the Office Action alleged. The Applicant cannot find any teaching or suggestion in Fletcher regarding the use of the disclosed circuit in a radio-frequency (RF) apparatus.

Furthermore, the Office Action fails to support the assertion that "Fletcher does not explicitly teach that the operational amplifier in the circuit is classified as class A (linear) or class B or C (non-linear)." Office Action at 4. The Applicant requested that, if the Office wishes to rely on the obviousness rejection based on Fletcher as outlined in the Office Action, the Office establish (with a proper evidentiary basis, such as citing specific passages of Fletcher, or an Examiner's declaration) that Fletcher teaches that amplifier 12 is an operational amplifier. The Office has failed to do so. Rather, the Office Action merely repeated the statements made previously. To the Applicant's reading, Fletcher merely teaches that "amplifier 12 may be conventional in design." Fletcher at col. 3, at line 3.

For at least the above reasons, Fletcher, either alone or in combination with Sander, fails to render obvious claim 5. Accordingly, the Office has not met its burden of issuing a prima facie rejection of claim 5.

vii. Dependent claim 6

Claim 6 depends ultimately on independent claim 5, and therefore includes all of its limitations. *See* 35 U.S.C. § 112, ¶ 4; 37 C.F.R. § 1.75(c). As noted above, the Office Action failed to properly establish that the combination of Fletcher and Sander render obvious claim 5 and, by implication, claim 6. Accordingly, the Office Action fails to set forth a prima facie rejection of claim 6.

viii. Dependent claim 7

Claim 7 depends ultimately on independent claim 5, and therefore includes all of its limitations. *See* 35 U.S.C. § 112, ¶ 4; 37 C.F.R. § 1.75(c). As noted above, the Office Action failed to properly establish that the combination of Fletcher and Sander render obvious claim 5 and, by implication, claim 7. Accordingly, the Office Action fails to set forth a prima facie rejection of claim 7.

ix. Dependent claim 8

Claim 8 depends ultimately on independent claim 5, and therefore includes all of its limitations. *See* 35 U.S.C. § 112, ¶ 4; 37 C.F.R. § 1.75(c). As noted above, the Office Action failed to properly establish that the combination of Fletcher and Sander render obvious claim 5 and, by implication, claim 8. Accordingly, the Office Action fails to set forth a prima facie rejection of claim 8.

x. Dependent claim 9

Claim 9 depends ultimately on independent claim 5, and therefore includes all of its limitations. *See* 35 U.S.C. § 112, ¶ 4; 37 C.F.R. § 1.75(c). As noted above, the Office Action failed to properly establish that the

combination of Fletcher and Sander render obvious claim 5 and, by implication, claim 9. Accordingly, the Office Action fails to set forth a prima facie rejection of claim 9.

xi. Dependent claim 10

Claim 10 depends ultimately on independent claim 5, and therefore includes all of its limitations. *See* 35 U.S.C. § 112, ¶ 4; 37 C.F.R. § 1.75(c). As noted above, the Office Action failed to properly establish that the combination of Fletcher and Sander render obvious claim 5 and, by implication, claim 10. Accordingly, the Office Action fails to set forth a prima facie rejection of claim 10.

xii. Dependent claim 11

Claim 11 depends ultimately on independent claim 5, and therefore includes all of its limitations. *See* 35 U.S.C. § 112, ¶ 4; 37 C.F.R. § 1.75(c). As noted above, the Office Action failed to properly establish that the combination of Fletcher and Sander render obvious claim 5 and, by implication, claim 11. Accordingly, the Office Action fails to set forth a prima facie rejection of claim 11.

xiii. Dependent claim 12

Claim 12 depends ultimately on independent claim 5, and therefore includes all of its limitations. *See* 35 U.S.C. § 112, ¶ 4; 37 C.F.R. § 1.75(c). As noted above, the Office Action failed to properly establish that the combination of Fletcher and Sander render obvious claim 5 and, by implication, claim 12. Accordingly, the Office Action fails to set forth a prima facie rejection of claim 12.

xiv. Dependent claim 13

Claim 13 depends ultimately on independent claim 5, and therefore includes all of its limitations. *See* 35 U.S.C. § 112, ¶ 4; 37 C.F.R. § 1.75(c). As noted above, the Office Action failed to properly establish that the combination of Fletcher and Sander render obvious claim 5 and, by implication, claim 13. Accordingly, the Office Action fails to set forth a prima facie rejection of claim 13.

xv. Dependent claim 14

Claim 14 depends ultimately on independent claim 5, and therefore includes all of its limitations. *See* 35 U.S.C. § 112, ¶ 4; 37 C.F.R. § 1.75(c). As noted above, the Office Action failed to properly establish that the combination of Fletcher and Sander render obvious claim 5 and, by implication, claim 14. Accordingly, the Office Action fails to set forth a prima facie rejection of claim 14.

VIII. CONCLUSION

For at least the reasons the Applicant articulates in this Appeal Brief, the Office has failed to carry its burden of setting forth prima facie rejections of the claims on appeal. Accordingly, the Applicant respectfully requests that the Board reverse the rejections of claims 1-20.

No fee (other than the enclosed fees for the concurrently filed extension of time and for this Appeal Brief) is believed to be due. Should any fees under 37 C.F.R. §§ 1.16-.21 be required for any reason relating to the filed papers, however, the Commissioner is authorized to deduct such fees from Deposit Account No. 50-3813/SILA122.

Respectfully submitted,

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IX. CLAIMS APPENDIX PURSUANT TO 37 C.F.R. § 41.37(C)(1)(VIII)

The appeal concerns claims 1-20. Claims 1, 3, and 5 are independent claims. Dependent claims 2, 4, and 6-20 depend ultimately on independent claims 1, 3, and 5, respectively.

The current text of the claims on appeal follows:

1. A converter in a radio-frequency (RF) apparatus, the converter comprising a feedback circuitry having a shielded input and a shielded output, wherein the shielded input and the shielded output tend to reduce interference in the converter.

2. The converter according to claim 1, further comprising:
a first filter coupled to the shielded input of the feedback circuitry; and
a second filter coupled to the shielded output of the feedback circuitry.

3. A method of reducing interference in a non-linear circuit in a radio-frequency (RF) apparatus, wherein the non-linear circuit has an input and an output, the method comprising:
shielding an input of the non-linear circuit; and
shielding an output of the non-linear circuit.

4. The method according to claim 3, further comprising filtering an input signal supplied to the input of the non-linear circuit.

5. A radio-frequency (RF) apparatus, comprising:
a non-linear signal-processing circuit;
a first shield that shields an input of the non-linear signal-processing circuit; and
a second shield that shields an output of the non-linear signal-processing circuit.

6. The apparatus according to claim 5, wherein the non-linear signal-processing circuit comprises switched-capacitor circuitry.

7. The apparatus according to claim 5, wherein the non-linear signal-processing circuit comprises noise-shaping converter circuitry.

8. The apparatus according to claim 5, wherein the non-linear signal-processing circuit comprises analog-to-digital converter circuitry.

9. The apparatus according to claim 5, wherein the non-linear signal-processing circuit comprises digital-to-analog converter circuitry.

10. The apparatus according to claim 5, wherein the non-linear signal-processing circuit comprises multiplier circuitry.

11. The apparatus according to claim 5, wherein the non-linear signal-processing circuit comprises modulator circuitry.

12. The apparatus according to claim 5, further comprising:

a first filter that filters an input signal of the non-linear signal-processing circuit; and

a second filter that filters an output signal of the non-linear signal-processing circuit.

13. The apparatus according to claim 5, wherein the first shield comprises a conduit, and wherein the second shield comprises a conduit.

14. The apparatus according to claim 5, wherein the first shield comprises a ground plane, and the second shield comprises a ground plane.

15. The converter according to claim 1, further comprising noise-shaping circuitry.

16. The converter according to claim 1, further comprising analog-to-digital conversion circuitry.

17. The converter according to claim 1, further comprising digital-to-analog conversion circuitry.

18. The method according to claim 3, wherein shielding the input of the non-linear circuit comprises using a conduit, and wherein shielding the output of the non-linear circuit comprises using a conduit.

19. The method according to claim 3, wherein shielding the input of the non-linear circuit comprises using a ground plane, and wherein shielding the output of the non-linear circuit comprises using a ground plane.

20. The method according to claim 3, wherein the non-linear circuitry comprises switched-capacitor circuitry, noise-shaping converter circuitry, analog-to-digital converter circuitry, digital-to-analog converter circuitry, multiplier circuitry, or modulator circuitry.

X. EVIDENCE APPENDIX PURSUANT TO 37 C.F.R. § 41.37(C)(1)(IX)

None.

XI. RELATED PROCEEDINGS APPENDIX PURSUANT TO 37 C.F.R. § 41.37(C)(1)(X)

None.